Curtis-Straus Test Report

Report No	EE0040-1
Client	Locknetics Security Engineering 575 Birch Street Forestville, CT 06010 (860) 314-5248 (860) 214 2452
Fax	(860) 314-2452
FRN	0005178298
Models	VIP5100 and VIP5500 Series
FCC ID	P2GVIP
Equipment Type Equipment Code	Low Power Communication Device Transmitter DXX
Results	As detailed within this report
Prepared by	Evan Gould – Test Engineer
Authorized by	Michael Buchholz – EMC Manager
Issue Date	2/2/04
Conditions of issue	This Test Report is issued subject to the conditions stated in 'terms and conditions' section of this report.

Curtis-Straus LLC is accredited by the American Association for Laboratory Accreditation for the specific scope of accreditation under Certificate Number 1627-01. This report may contain data which is not covered by the A2LA accreditation.



Curtis-Straus LLC • 527 Great Road • Littleton, MA • TEL (978) 486-8880 • FAX (978) 486-8828

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Summary

This report is an application for certification of transmitters operating pursuant to 47 CFR 15.209. The products are the VIP5100 and VIP5500 Series locks. The specific product tested was the VIP5596. The 5100's are cylindrical locks, and the 5500's are mortise locks. The model variations within these groups are summarized in the accompanying manual exhibit.

Test Methodology

Radiated emissions testing is performed according to the procedures specified in ANSI C63.4 (2002). Receiving loop antenna was rotated in order to maximize radiated emission measurements.

Frequency range investigated:	9kHz – 1GHz	
Measurement distance:	9kHz – 30MHz	1m
	30MHz – 1000MHz	3m

AC Line conducted emissions testing was performed with a $50\Omega/50\mu H$ LISN.



EUT Configuration

	EUT	Configura	ation		
Work Order: Company: Company Address: Contact: Person Present:	E0040 Locknetics 575 Birch Forestville Adam O'D Adam O'D	s Security Engi Street e, CT 06010 Day Day	ineering		
	MN		SN		FCC ID
EUT:	VIP5596		-		P2GVIP
EUT Max Frequency:	4MHz				
Support Equipment:	MN		SN		FCC ID
Panel Interface Board	PIB		-		-
Panel Interface Board Keri System Panel	PIB PXL-500/I	PXL-510	-		-
Panel Interface Board Keri System Panel RadioShack 12VDC adaptor	PIB PXL-500/ł 273-1779	PXL-510	-		- -
Panel Interface Board Keri System Panel RadioShack 12VDC adaptor <i>EUT Cables:</i>	PIB PXL-500/F 273-1779 Qty	PXL-510 Shielded?	- - Length	Ferrites	-
Panel Interface Board Keri System Panel RadioShack 12VDC adaptor <i>EUT Cables:</i> RS485/DC cable	PIB PXL-500/f 273-1779 Qty 1	PXL-510 Shielded? Yes	- - - Length 1m	Ferrites No	-
Panel Interface Board Keri System Panel RadioShack 12VDC adaptor <i>EUT Cables:</i> RS485/DC cable <i>Unpopulated EUT Ports:</i>	PIB PXL-500/I 273-1779 Qty 1 Qty	PXL-510 Shielded? Yes Reason	- - - Length 1m	Ferrites No	-
Panel Interface Board Keri System Panel RadioShack 12VDC adaptor <i>EUT Cables:</i> RS485/DC cable <i>Unpopulated EUT Ports:</i> none	PIB PXL-500/I 273-1779 Qty 1 Qty	PXL-510 Shielded? Yes Reason	- - - 1m	Ferrites No	-
Panel Interface Board Keri System Panel RadioShack 12VDC adaptor <i>EUT Cables:</i> RS485/DC cable <i>Unpopulated EUT Ports:</i> none <i>Software / Operating Mode L</i>	PIB PXL-500/F 273-1779 Qty 1 Qty Description	PXL-510 Shielded? Yes Reason	- - - 1m	Ferrites No	-



Statement of Conformity

The VIP5596 has been found to conform with the following parts of the 47 CFR as detailed below:

Part 2	Part 15	Comments
	15.15(b)	The product contains no user accessible controls that increase
		transmission power above allowable levels.
2.925	15.19	The label is shown in the label exhibit.
	15.21	Information to the user is shown in the instruction manual exhibit.
	15.27	No special accessories are required for compliance.
	15.203	The antenna is not accessible to the user and therefore cannot be easily removed. (The antenna and its connector are underneath the PCB assembly which is in turn professionally installed in the door lock enclosure.)
	15.205 15.209	The fundamental is not in a Restricted band and the spurious and harmonic emissions in the Restricted bands comply with the general emission limits of 15.209.
	15.207	The unit meets the AC line conducted emissions requirements of 15.207.



Fundamental and Harmonic Emissions

<u>LIMITS</u>

Frequency (MHz)	Field strength	Measurement
	(microvolts/meter)	distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30.0	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

[15.209(a)]

MEASUREMENTS

Fundamental and Harmonics (9kHz-30MHz) curr											traus LLC
Date: 19-Jan-04 Engineer: Evan Gould Work Order: E0040											E0040
Company:	Company: Locknetics EUT: VIP5596 and PIB Fundamental Frequency: 125kHz									125kHz	
Test Site:	"T"			Cable:	65 ft RG8A	ΰ				Pre-amp:	Green
Antennas:	Small Loop (9kHz-30MH	z) Filte	er/Attenuator:	N/A					Analyzer:	Yellow
1	Measuremen Dete	t Distance: ector Type:	1 meter Peak				Res	olution BW: Video BW:	9kHz 30kHz		
Notes:	No spurious	emissions w	ere detected.								
Antenna			Preamp	Antenna	Cable	Filter/Attenuator	Distance	Adjusted	4	7 CFR 15.20	19
Polarization	Frequency	Reading	Factor	Factor	Factor	Factor	Factor	Reading	Limit	Margin	Result
(0° / 90°)	(MHz)	(dBµV)	(dB)	(dB/m)	(dB)	(dB)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)
0° pk	0.1258	53.7	21.5	62.7	0.0	0.0	99.0	-4.1	25.6	-29.7	Pass
0° pk	0.2516	23.9	21.4	57.7	0.0	0.0	99.0	-38.8	19.6	-58.4	Pass
0° pk	0.3774	25.2	21.4	55.3	0.0	0.0	99.0	-39.9	16.1	-56.0	Pass

Radiate	d Emis	sions T	able				Curtis-Straus LLC			
Date: 19-Jan-04 Company: Locknetics Work Order: E00								E0040		
Engineer:	Engineer: Evan Gould EUT Desc: VIP5596 and PIB									
Frequency Range: 30-1000MHz Measurement Distance: 3 m										
Notes:						EU	T Max Freq:	4MHz		
Antenna			Preamp	Antenna	Cable	Adjusted	4	7 CFR 15.20)9	
Polarization	Frequency	Reading	Factor	Factor	Factor	Reading	Limit	Margin	Result	
(H / V)	(MHz)	(dBµV)	(dB)	(dB/m)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	(Pass/Fail)	
noise floor	35.0	28.0	20.5	12.5	0.7	20.7	40.0	-19.3	Pass	
noise floor	52.4	24.6	20.4	6.9	0.9	12.0	40.0	-28.0	Pass	
noise floor	84.4	29.0	20.4	7.8	1.2	17.6	40.0	-22.4	Pass	
V	90.6	33.6	20.4	7.5	1.2	21.9	43.5	-21.6	Pass	
noise floor	116.0	20.6	20.4	6.9	1.4	8.5	43.5	-35.0	Pass	
Н	239.7	48.8	20.4	12.3	2.1	42.8	46.0	-3.2	Pass	
Table Result:Passby-3.2 dBWorst Freq:239.7 MHz							MHz			
Test Site:	"Т"	Pre-Amp:	Green	Cable:	65 ft RG8A/U	Analyzer:	Yellow	Antenna:	Red	



AC Line Conducted Emission Measurements LIMITS

Frequency of	Quasi-peak limit	Average limit
emission (MHz)	(dBµV)	(dBµV)
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency. [47 CFR 15.207(a)]

MEASUREMENTS

AC Main	is Cond	ucted E	missi	ons							CurtisSt	aus LLC
Date:	19-Jan-04		0	Company:	Locknetics						Table No:	3
Engineer:	Josh LeBlan	IC	E	UT Desc:	Proximity Boar	d					Work Order:	E0040
Notes:											Test Site:	EMI 1
LISN(s):	Red											
Range:	0.15-30Mhz			Othe	er Equipment:				Spectro	um Analyzer:	Red	
					Impedance	FCC B A	pplicable	FCC/C	ISPR B	FCC/	CISPR B	
	Q.P. Re	eadings	Ave. Re	eadings	Factor	until July	12. 2004					Overall
Frequency	QP1	QP2	AV1	AV2		Limit	Margin	qp Limit	qp Margin	AVE Limit	AVE Margin	Result
(MHz)	(dBµV)	(dBµV)	(dBµV)	(dBµV)	(dB)	(dBµV)	dB	(dBµV)	dB	(dBµV)	dB	(Pass/Fail)
9.22	10.5	6.1			20.0	47.9	-17.4	60.0	-29.5	50.0	-19.5	Pass
12.30	14.9	14.0			20.0	47.9	-13.0	60.0	-25.1	50.0	-15.1	Pass
12.55	14.0	13.4			20.0	47.9	-13.9	60.0	-26.0	50.0	-16.0	Pass
13.22	12.1	11.8			20.0	47.9	-15.8	60.0	-27.9	50.0	-17.9	Pass
13.75	9.4	11.3			20.0	47.9	-16.6	60.0	-28.7	50.0	-18.7	Pass
14.33	9.1	9.5			20.0	47.9	-18.4	60.0	-30.5	50.0	-20.5	Pass
Table	Result:	Pass	by	-13.00	dB				Wo	rst Freq:	12.30	MHz



Voltage Variation

REQUIREMENT

"For intentional radiators, measurements of the variation of the...radiated signal level of the fundamental frequency component of the emission...shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage." [15.31(e)]

MEASUREMENTS

Voltage V	Variatior	۱					Curti	s Straus LLC
Date:	Date: 19-Jan-04 Engineer: Evan Gould Work Order: E0							
Company:	Locknetics			EUT:	VIP5596	Fundament	al Frequency:	125kHz
Test Site:	"T"			Antenna:	Small loop		Analyzer:	Yellow
	Measuremen	t Distance:	1m	Re	solution BW:	9kHz		
	Det	ector Type:	Peak		Video BW:	120kHz		
Notes:	Nominal volta	age range: 1	2-24VDC					
Supply								
Voltage	Frequency	Reading						
	(MHz)	(dBµV)						
10.2V (85%)	0.1258	51.8						
18V	0.1258	51.6						
27.6V (115%)	0.1258	51.8						



Test Equipment Used

							REV. 1/12/04	
SPECTRUM ANALYZERS	RANGE	Ν	ЛN	Mfr		SN	ASSET	CALIBRATION DUE
RED	9kHz-1.8GHz	85	8591E I		34	3441A03559		21-MAY-2004
YELLOW	9kHz-2.9GHz	85	94E	HP	35	23A01958	00100	08-JUL-2004
LISNS/MEASUREMENT	RANGE		MANI		McD	CNI	ASSET	
PROBES			IVIIN		MFR	SN		CALIBRATION DUE
RED	10ĸHz-30MH	z 8012-	50-R-24-BNC	;	SOLAR	956348	00753	01-APR-2004
OPEN AREA TEST SI	TE (OATS)	FCC	CODE	l	IC CODE	VCCI	CODE	CALIBRATION DUE
SITE T		9	3448	10	C 2762-T	R-9	905	25-MAR-2005
LINE CONDUCTED T	EST SITES	FCC	FCC CODE		IC CODE	VCCI CODE		CALIBRATION DUE
EMI 1		9	93448		N/A	C-1801		01-MAY-2006
ANTENNAS	RANGE	MN	Mfr		SN	ASSET	CALIB	RATION DUE
RED BILOG	30MHz-1GHz	3143	EMCO		1270	00042	17-N	IAR-2005
SMALL LOOP	9кHz-30MHz F	PLA-130/A	ARA		1024	00755	27-J	AN-2004
PREAMPS / ATTENUATORS			MNI		Мгр	SN	Accet	
FILTERS	NANGE		IVIIN			31	ASSET	CALIBRATION DUE
GREEN	0.01-2000M	Hz ZFL-1000-LN			C-S	N/A	00802	17-MAR-2004
RMS VOLTMET	ERP	MN	MNFR			SN	ASSET	CALIBRATION DUE
TRUE-RMS VOLTM	IETER	79111	FLUKE		717	700298	00769	15-OCT-2004

Unless otherwise noted the calibration interval is one year. All equipment is calibrated using standards traceable to NIST or other nationally recognized calibration standard.



Terms And Conditions

Paragraph 1. SERVICES. LABORATORY will:

- Use the degree of care and skill ordinarily exercised by and consistent with the standards of the profession. 1.1
- Perform all technical services in substantial accordance with the generally accepted laboratory principles and practices. 1.2 1.3
- Retain all pertinent softworks relating to the services performed for a period of three (3) years following submission of the report describing such services, during which period the records will be made available to CLIENT upon reasonable request.

Paragraph 2. CLIENT'S RESPONSIBILITIES. CLIENT or his authorized representative will:

- Provide LABORATORY with all plans, schematics, specifications, addenda, change orders, drawings and other information for 2.1
- the proper performance of technical services. Designate a person to act as CLIENT's representative with respect to LABORATORY's services to be performed on behalf of 22 the CLIENT; such person or firm to have complete authority to transmit instructions, receive information and data, interpret and define CLIENT's policies and decisions with respect to the LABORATORY's work on behalf of the CLIENT and to order, at CLIENT's expense, such technical services as may be required.
- Designate a person who is authorized to receive copies of LABORATORY's reports. 23
- 2.4 Undertake the following:
 - (a) Secure and deliver to LABORATORY, without cost to LABORATORY, preliminary representative samples of the equipment proposed to require technical services, together with any relevant data.
 - (b) Furnish such labor and equipment needed by LABORATORY to handle samples at the LABORATORY and to facilitate the specified technical services

Paragraph 3. GENERAL CONDITIONS:

- 3.1 LABORATORY, by the performance of services covered hereunder, does not in any way assume any of those duties or responsibilities customarily vested in the CLIENT, its employees, or any other party, agency or authority.
- 3.2 LABORATORY shall not be responsible for acts of omissions of any other party or parties involved in the design, manufacture or maintenance of the equipment or the failure of any employee, contractor or subcontractor to undertake any aspect of equipment's design, manufacture or maintenance.
- LABORATORY is not authorized to revoke, alter, release, enlarge or release any requirement of the equipment's design, manufacture or maintenance unless specifically authorized by CLIENT or his authorized representative. THE ONLY WARRANTY MADE BY LABORATORY IN CONNECTION WITH ITS SERVICE PERFORMED 3.3
- 34 HEREUNDER IS THAT IT WILL USE THAT DEGREE OF CARE AND SKILL AS SET FORTH IN PARAGRAPH 1 ABOVE. NO OTHER WARRANTY, EXPRESS OR IMPLIED, IS MADE OR INTENDED FOR SERVICES PROVIDED HEREUNDER
- 3.5
- Where the LABORATORY indicates that additional testing is advisable to obtain more valid or useful data, and where such testing has not been authorized, CLIENT agrees to view such test reports as inconclusive and preliminary. The LABORATORY will supply technical service and prepare a report based solely on the sample submitted to the LABORATORY by the CLIENT. The CLIENT understands that application of the data to other devices is highly speculative and should be applied with extreme caution. 36
- The LABORATORY agrees to exercise ordinary care in receiving, preserving and shipping (F.O.B. Littleton, MA) any sample to be tested, but assumes no responsibility for damages, either direct or consequential, which arise from loss, damage or destruction of the samples due to the act of examination, modification or testing, or technical services or circumstances beyond 37 LABORATORY's control
- The LABORATORY will hold samples for thirty (30) days after tests are completed, or until the CLIENT's outstanding debts to the LABORATORY are satisfied, whichever is later. 3.8
- The CLIENT recognizes that generally accepted error variances apply and agrees to consider such error variances in its use of 39 test data.
- 3.10 It is agreed between LABORATORY and CLIENT that no distribution of any tests, reports or analysis other than that described below shall be made to any third party without the prior written consent of both parties unless such distribution is mandated by operation of law. It is agreed that tests, reports, or analysis results may be disclosed to third party auditors of the laboratory at the laboratory facility in the course of accreditation maintenance audits. No reference to reports or technical services of the LABORATORY shall be made in any advertising or promotional literature without the express written permission of the LABORATORY.
- 3.11 The CLIENT acknowledges that all employees of LABORATORY operate under employment contracts with the LABORATORY and CLIENT agrees not to solicit employment of such employees or to solicit information related to other clients from said employees.
- 3.12 In recognition of the relative risks and benefits of the project to both CLIENT and LABORATORY, the risks have been allocated such that the CLIENT agrees, to the fullest extent permitted by law, to limit the liability of the LABORATORY to the CLIENT for any and all claims, losses, costs, damages of any nature whatsoever or claims expenses from any cause or causes including attorneys' fees and costs and expert witness fees and costs, so that the total aggregate liability of the LABORATORY to the CLIENT shall not exceed \$100,000, or the LABORATORY'S total fee for services rendered on this project, whichever is greater. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

Paragraph 4. INSURANCE:

- LABORATORY shall secure and maintain throughout the full period of the services provided to the CLIENT adequate insurance to protect it from claims under applicable Workmen's Compensation Acts and also shall maintain one million dollars 4.1of general liability coverage to cover claims for bodily injury, death or property damage as may arise from the performance of its services
- The CLIENT hereby warrants that it has sufficient insurance to protect its employees adequately under applicable Workmen's Compensation Acts and for bodily injury, death, or property damage. 4.2
- No insurance of whatever kind or type, which may be carried by either party is to be considered as in any way limiting any 43 other party's responsibility for damages resulting from their operations or for furnishing work and materials.



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Paragraph 5. PAYMENT:

- CLIENT shall pay to LABORATORY such fees for services as previously agreed, orally or in writing, within 30 days of presentment of a bill for such services performed. In the event CLIENT ordered, orally or in writing, services but such services were not assigned a rate for billing, such services shall be billed at the LABORATORY's reasonable and customary rate. CLIENT shall be responsible for all shipping, customs and other expenses related to services provided by LABORATORY to the CLIENT, and shall fully insure any test sample or other equipment provided to LABORATORY by the CLIENT. Amounts overdue from CLIENT to LABORATORY shall be charged interest at a rate of 1½% per month. 5.1
- 5.2
- 5.3

Paragraph 6. ISO/IEC GUIDE 17025 ADDITIONS:

- CLIENT agrees that this test report will not be reproduced except in full, without written approval from the LABORATORY. CLIENT agrees that this test report shall not be used to claim product endorsement by A2LA or ANSI or any agency of the 6.1
- 6.2 U.S. Government.
- 6.3 CLIENT agrees that test results presented herein relate only to the sample tested by the LABORATORY.



A2LA Accreditation

SCOPE OF ACCREDITATION TO ISO/IEC 17025-1999		011 1991, 1998	Limits and methods of measurement of radio disturbance characteristics of industrial, scientific and medical (ISM) radio-
CURTIS-STRAUS ¹ 527 Greet Road		CISPR 11:1997	frequency equipment. Industrial, scientific and medical (ISM) radio-frequency equipme Electromagnetic disturbance characteristics Limits and methods
Littleton, MA 01460			measurement
Barry Quinlan	Phone: 978-486-8880	a ICES-001 1998 3803	Industrial, scientific and medical radio frequency generators Industrial, Scientific and Medical Instrument
ELECTRICAL		2S 2064: 1997	Limits and methods of measurement of electromagnetic disturbat characteristics of industrial, scientific and medical (ISM) radio-
intil: July 31, 2005	Certificate Number: 1627-01	C108.8 – M1983	frequency equipment. Electromagnetic Emission from Data Processing Equipment and
gnition of the successful completion of the A2LA evaluation process, accreditation is granted to this laborator n the following <u>Electromagnetic Compatibility (EMC), Telecommunications, and Product Safety tests</u> :		13:1996, 1998, 2001	Electronic Office Machines Limits and methods of measurement of radio interference characteristics of sound and talavision broadcast receivers and
pmagnetic Compatibility (EMC)			associated equipment.
ed emissions testing (electric and magnetic fields); Conducted emissions testing (voltage and current); Electros rge testing; Electrical Fast Transient testing; Radiated Immunity testing; Conducted Immunity testing; Lightni ity testing; Voltage Dips, Interrupts and Voltage Variations testing; Magnetic Immunity testing; RF Power rements; Frequency Stability measurements; Longitudinal Induction measurements; Harmonic emissions testin licker testing; Low frequency disturbance voltage testing; Disturbance Power measurements		013: 1990, 2001 013 Amend 12 1994	Sound and television broadcast receivers and associated equipme Electromagnetic compatibility. Part 1: Specification for limits an methods of measurement of radio disturbance characteristics of broadcast receivers and associated equipment. Limits and methods of measurement of radio disturbance
<u>Standards</u>	Title	CISPR 13: 1996	characteristics of broadcast receivers and associated equipment. Amendment 12 Limits and methods of measurement of radio interference
ons 22 1997 with amendments 1 and 2	Limits and methods of measurement of radio disturbance		characteristics of sound and television broadcast receivers and associated equipment.
8438 1994	characteristics of information technology equipment.	3439 /\$ 1053- 1999	Broadcast receiver and associated equipment Limits and methods measurement of radio interference characteristics of sound and
	characteristics of information technology equipment.		television broadcast receivers and associated equipment.
122:1994 and 1998	Limits and methods of measurement of radio disturbance characteristics of information technology equipment	t 14 1993 t discontinuous disturbances)	Limits and methods of measurement of radio disturbance characteristics of electrical motor- operated and thermal appliance
CISPR 22:1997	Information technology equipment – Radio disturbance	(useoninious usini burees)	household and similar purposes, electric tools and electric appara
LCES-003 1997	characteristics – Limits and methods of measurement	014 1993, 1997 tinuous disturbanças)	Limits and methods of measurement of radio disturbance (except characteristics of electrical motor- operated and thermal appliance
IS 3548 1995	Australian/New Zealand Standard Limits and methods of	ninous aisiai vancesj	household and similar purposes, electric tools and similar electric
	measurement of radio disturbance characteristics of inform	S 1044- 1995	apparatus. Limits and methods of measurement of radia disturbance (
11 1990, 1997, 1999	Limits and methods of measurement of electromagnetic	tinuous disturbances)	characteristics of electrical motor- operated and thermal appliance
	disturbance characteristics of industrial, scientific and med (ISM) radio fraquency equipment		household and similar purposes, electric tools and similar electric
	(ISM) radio-nequency equipment.		apparatus.
		iity	Hausshold Electrical Amplianees
This accreditation covers testing performed at the	laboratory listed above and the satellite facility	CISPR 14-1 1993	Electromagnetic compatibility – Requirements for household
l at 168 Ayer Rd, Littleton, MA 01460			appliances, electric tools and similar apparatus Part 1: Emission-
		CISPR 14-2 1997 + A1:2001	Product family standard Electromagnetic compatibility – Requirements for household
Cert. No. 1627-01) 10/31/03	Page 1 of 11		appliances, electric tools and similar apparatus Part 2: Immunity
			Product family standard
		Cert. No. 1627-01) 10/31/03	Page 2 of 11
14-2 1996, 1997 + A1:2001	Immunity requirements for household appliances, tools and	000-6-1: 1997, 2001	Electromagnetic Compatibility (EMC)- Part 6: Generic standards
	similar apparatus.	, i i i i i i i i i i i i i i i i i i i	Section 1: Immunity for residential, commercial and light-industr
20: 1995, 2002 with amendment 3 iated group only)	Limits and methods of measurement of immunity character of sound and television broadcast receivers and associated	000-6-2: 1998. 2001	environments Electromagnetic Compatibility (EMC)- Part 6: Generic standards
	equipment.		Section 2: Immunity for industrial environments
020: 1995, 2002 iated group only)	Electromagnetic immunity of broadcast receivers and Associated equipment.	091-2 1996	Specification for Uninterruptible Power Systems (UPS). Part 2: E requirements
. 24	Information technology equipment - Immunity characterist	024 1998	Information technology equipment - Immunity Characteristics -
CISPR 24 1997	Limits and methods of measurement Information technology equipment – Immunity characterist	103-1 1997	and methods of measurement. Electromagnetic Compatibility – Product family standard for aud
0.01 (21 1)))	Limits and methods of measurement		video, audio-visual and entertainment lighting control apparatus
S 3200.1.2: 1995	Approval and test specification – Medical electrical Equips	103-2 1997	professional use. Part 1: Emission Electromagnetic Compatibility – Product family standard for aud
	Electromagnetic compatibility – Requirements and tests.	ling Annex A3)	video, audio-visual and entertainment lighting control profession
ean Union Basic FMC Standards		326 1998	Part 2: Immunity Electrical equipment for measurement, control and laboratory us
000-4-2: 1995, 1999, 2001	Electromagnetic compatibility (EMC). Part 4: Testing and	520 1778	EMC requirements
	measurement techniques. Section 2: Electrostatic discharge	547 1996	Equipment for general lighting purposes - EMC immunity
000-4-3:1997, 1998, 2002	Electromagnetic compatibility (EMC). Part 4: Testing and	130-4 1996	Alarm Systems. Part 4: Electromagnetic compatibility. Product 1
S 61000.4.3 1999	measurement techniques. Section 3: Radiated, radio-freque		standard: Immunity requirements for components of fire, intrude
000-4-4 1995	Electromagnetic compatibility (EMC). Part 4: Testing and	104 1995	Electromagnetic compatibility immunity – requirements for hous
	measurement techniques. Section 4: Electrical fast transient/burst immunity test - Basic EMC publication	083-2 1995	appliances, tools and similar apparatus. Product family standard.
000-4-5 1995	(EMC) Part 4: Testing and measurement techniques. Section	005-2 1995	Electromagnetic compatibility for equipment.
IS 61000.4.5 1999 000-4-6 1996	Surge immunity test. Electromagnetic compatibility (EMC) Part 4: Testing	601-1-2: 1993, 2002	Medical electrical equipment Part 1: general requirements for sat Section 2: Collateral standard: Electromagnetic compatibility
CS 61000.4.6 1999	and measurement techniques. Section 6: Immunity to condi-		requirements and tests
000-4-8 1994	disturbances, induce by radio-frequency fields.	800-3 1995	Adjustable speed electrical power drive systems. Part 3: EMC pa standard including specific test methods
000-+01774	measurement techniques. Section 8: Power frequency magi	555 Part 2 1987	Disturbances in supply systems caused by household appliances a
000-4-11 1994	field immunity test. (EMC) Part 4: Testing and measurement techniques. Section	555 Part 3 1987	similar electrical equipment. Part 2: Harmonics Disturbances in supply systems caused by household appliances
	Voltage dips, short interruptions and voltage Variations		similar electrical equipment. Part 3: Voltage fluctuations.
1000-2-2 1993	immunity tests. Electromagnetic compatibility (EMC) Part 2: Environmen	000-3-2: 1995, 2000 AS/NZS 61000 3 2 1998	Electromagnetic compatibility (EMC). Part 3: Limits Section 2: for harmonic current emissions
	Section 2: Compatibility levels for low-frequency conductor	000-3-3 1995	Electromagnetic compatibility (EMC). Part 3: Limits Section 2:
	disturbances and signaling in public low-voltage power sup systems (IEC 1000-2-2:1990)	2S 61000.3.3 1999	Limitation of voltage fluctuations and flicker in low-voltage supp
		00 386-1 1994	Equipment Engineering (EE); Public telecommunication network
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mmunications Registration; General test methods; Lightning surge; Drop testing; Balance testing; Signal pow lic and longitudinal); Frequency measurements; Pulse templates; Leakage testing; Impedance testing; Hearing ttibility testing (<i>excluding</i> youthme control); Protocol analysis and Jitter testing.			circuit switched data networks and leased circuits using a CCITT Recommendation X.21 interface, or at an interface physically, functionally and electrically compatible with CCITT Recommend
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